Microbac

**Laboratory Report Number:** L12020592

Mark Lyon
Environmental Waste Solutions
2440 Louisiana Blvd
Albuquerque, NM 87110

Please find enclosed the analytical results for the samples you submitted to Microbac Laboratories. Review and compilation of your report was completed by Microbac's Ohio Valley Division (OVD). If you have any questions, comments, or require further assistance regarding this report, please contact your service representative listed below.

Laboratory Contact:
Stephanie Mossburg – Team Chemist/Data Specialist
(740) 373-4071
Stephanie.Mossburg@microbac.com

*I certify that all test results meet all of the requirements of the DoD QSM and other applicable contract terms and conditions. Any exceptions are attached to this cover page or addressed in the method narratives presented in the report. All results for soil samples are reported on a 'dry-weight' basis unless specified otherwise. Analytical results for water and wastes are reported on a 'as received' basis unless specified otherwise. A statement of uncertainty for each analysis is available upon request. This laboratory report shall not be reproduced, except in full, without the written approval of Microbac Laboratories, DoD ELAP certification number 2936.01. The reported results are related only to the samples analyzed as received.*

This report was certified on March 05 2012

David L. Vandenberg

David Vandenberg – Managing Director

State of Origin: NM
Accrediting Authority: N/A ID:N/A
QAPP: DOD Ver 4.1

Microbac

**Lab Report #:** L12020592
**Lab Project #:** 3005.011
**Project Name:** White Sands MR
**Lab Contact:** Stephanie Mossburg

# Record of Sample Receipt and Inspection

## Comments/Discrepancies

This is the record of the shipment conditions and the inspection records for the samples received and reported as a sample delivery group (SDG). All of the samples were inspected and observed to conform to our receipt policies, except as noted below.

The following discrepancies were noted:

| Discrepancy | Resolution |
|---|---|
| Received 2 Trip Blanks not on the Chain of Custody. Logged at end of SDG. | |

## Coolers

| Cooler # | Temperature Gun | Temperature | COC # | Airbill # |
|---|---|---|---|---|
| 0016642 | G | 0.0 | | 1002241152560004575000874824307370 |

## Inspection Checklist

| # | Question | Result |
|---|---|---|
| 1 | Were shipping coolers sealed? | Yes |
| 2 | Were custody seals intact? | Yes |
| 3 | Were cooler temperatures in range of 0-6? | Yes |
| 4 | Was ice present? | Yes |
| 5 | Were COC's received/information complete/signed and dated? | Yes |
| 6 | Were sample containers intact and match COC? | No |
| 7 | Were sample labels intact and match COC? | Yes |
| 8 | Were the correct containers and volumes received? | Yes |
| 9 | Were samples received within EPA hold times? | Yes |
| 10 | Were correct perservatives used? (water only) | Yes |
| 11 | Were pH ranges acceptable? (voa's excluded) | Yes |
| 12 | Were VOA samples free of headspace (less than 6mm)? | Yes |

Microbac

**Lab Report #:** L12020592
**Lab Project #:** 3005.011
**Project Name:** White Sands MR
**Lab Contact:** Stephanie Mossburg

**Samples Received**

| Client ID | Laboratory ID | Date Collected | Date Received |
|---|---|---|---|
| STP-WC-0212 | L12020592-01 | 02/17/2012 12:40 | 02/18/2012 09:02 |
| HTA-WC-0212 | L12020592-02 | 02/17/2012 12:45 | 02/18/2012 09:02 |
| TRIP BLANK | L12020592-03 | 02/17/2012 00:01 | 02/18/2012 09:02 |

**Login Number:** L12020592
**Department**: Volatiles
**Analyst:** Anthony Canter

**METHOD**

**Preparation** SW-846 5030C/5035A

**Analysis** SW-846 8260B

**HOLDING TIMES**

**Sample Preparation:** All holding times were met.

**Sample Analysis:** All holding times were met.

**PREPARATION**

Sample preparation proceeded normally.

**CALIBRATION**

**Initial Calibration:** For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

**Alternate Source Standards:** The percent difference was out of range for the following analytes: Dichlorodifluoromethane. Please see the applicable QC report for a detailed presentation of the failures.

**Continuing Calibration and Tune:** Recoveries out of range were observed for the following analytes: Dichlorodifluoromethane, Vinyl Acetate. Please see the applicable QC report for a detailed presentation of the failures.

**BATCH QA/QC**

**Method Blank:** All acceptance criteria were met.

**Laboratory Control Sample:** Recoveries out of range were observed for the following analytes: 2-Hexanone, Acetone, Dichlorodifluoromethane. Please see the applicable QC report for a detailed presentation of the failures.

**Matrix Spikes:** Microbac Laboratories recommends site specific MS/MSD samples to avoid possible data qualifications.

**SAMPLES**

**Internal Standards:** All acceptance criteria were met.

**Surrogates:** All acceptance criteria were met.

**Other:** Samples 01, were run at a dilution.

**Manual Integration Reason Codes**

**Reason #1: Data System Fails to Select Correct Peak.** In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

**Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak.** This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low area counts for the target compound.

**Reason #3: Improperly Integrated Isomers and/or coeluting compounds.** This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

**Reason #4: System Establishes Incorrect Baseline.** There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected

via manual procedures.

**Reason #5: Miscellaneous.** Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

**Narrative ID:** 42812
**Approved By:** Michael Albertson

**Login Number:** L12020592
**Department**: Semivolatiles
**Analyst:** Cassie A. Augenstein

**METHOD**

**Preparation** 3510C

**Analysis** SW-846 8270C/40 CFR 264 App. IX

**HOLDING TIMES**

**Sample Preparation:** All holding times were met.

**Sample Analysis:** All holding times were met.

**PREPARATION**

Sample preparation proceeded normally.

**CALIBRATION**

**Initial Calibration:** For all compounds that yielded a %RSD greater than 15%, linear or higher order equations were applied. All acceptance criteria were met.

**Alternate Source Standards:** The percent difference was out of range for the following analytes: 2,4-Dinitrophenol, 4,6-Dinitro-2-Methylphenol, Pentachlorophenol. Please see the applicable QC report for a detailed presentation of the failures.

**Continuing Calibration and Tune:** Recoveries out of range were observed for the following analytes: Benzoic Acid, Hexachlorocyclopentadiene. Please see the applicable QC report for a detailed presentation of the failures.

**BATCH QA/QC**

**Method Blank:** All acceptance criteria were met.

**Laboratory Control Sample:** All acceptance criteria were met.

**Matrix Spikes:** The MS/MSD results were not associated with this sample delivery group.

**SAMPLES**

**Samples:** All acceptance criteria were met.

**Internal Standards:** All acceptance criteria were met.

**Surrogates:** All acceptance criteria were met.

**Manual Integration Reason Codes**

**Reason #1: Data System Fails to Select Correct Peak** In some cases the chromatography system selects and integrates the 'wrong peak'. In this case the analyst must correct the selection and force the system to integrate the proper peak. Other times the system may miss the peak completely.

**Reason #2: Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak** This phenomena is common at low concentrations where the signal:noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low area counts for the target compound.

**Reason #3: Improperly Integrated Isomers and/or coeluting compounds.** This system often fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations are wrong, and they must be corrected by manual integration. Prime examples are benzo(k)fluoranthene and benzo(b)fluoranthene which are often unresolved and integrated improperly when both are present at low concentrations in standards or samples.

**Reason #4: System Establishes Incorrect Baseline** There are numerous situations in chromatography where the

system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and should be corrected via manual procedures.

**Reason #5: Miscellaneous** Other situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the laboratory management. If the form of manual integration is not clearly covered by these four cases, then review and approval by the Managing Director or the QAO will be required.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

**Narrative ID:** 42898
**Approved By:** Mike Cochran

**Login Number:** L12020592
**Department**: Conventionals
**Analyst:** Dorothy Payne

**METHOD**

**Analysis** SW846 9040C,9045D/EPA 150.1/SM4500-H B (pH)

**HOLDING TIMES**

**Sample Analysis:** All holding times were met.

**PREPARATION**

Sample preparation proceeded normally.

**BATCH QA/QC**

**Method Blank:** All acceptance criteria were met.

**Laboratory Control Sample:** All acceptance criteria were met.

**Matrix Spikes:** All acceptance criteria were met.

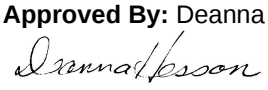
**Duplicates:** All acceptance criteria were met.

**SAMPLES**

**Samples:** All acceptance criteria were met.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Microbac Laboratories Inc., both technically and for completeness, except for the conditions noted above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

**Narrative ID:** 42681
**Approved By:** Deanna Hesson



**Login Number:** L12020592
**Department**: Metals
**Analyst:** Kim Rhodes

**METHOD**

**Preparation:** SW-846 3005

**Analysis:** SW-846 6010

**HOLDING TIMES**

**Sample Preparation:** All holding times were met.

**Sample Analysis:** All holding times were met.

**PREPARATION**

Sample preparation proceeded normally.

**CALIBRATION**

**Initial Calibration:** All acceptance criteria were met.

**Alternate Source Standards:** All acceptance criteria were met.

**Interference Check Standards:** All acceptance criteria were met.

**Continuing Calibration Verification:** All acceptance criteria were met.

**Continuing Calibration Blank:** All acceptance criteria were met.

**BATCH QA/QC**

**Method Blank:** All acceptance criteria were met.

**Laboratory Control Sample:** All acceptance criteria were met.

**Serial Dilution/Post Digestion Spikes:** WG390680 - All acceptance criteria were met.

**Matrix Spikes:** All acceptance criteria were met.

**SAMPLES**

**Samples:** All acceptance criteria were met.

**Narrative ID:** 42737
**Approved By:** Sheri Pfalzgraf

**Login Number:** L12020592
**Department**: Metals
**Analyst:** Erin Long

**METHOD**

**Preparation:** SW-846 3015

**Analysis:** SW-846 6020

**HOLDING TIMES**

**Sample Preparation:** All holding times were met.

**Sample Analysis:** All holding times were met.

**PREPARATION**

Sample preparation proceeded normally.

**CALIBRATION**

**Initial Calibration:** All acceptance criteria were met.

**Alternate Source Standards:** All acceptance criteria were met.

**Interference Check Standards:** All acceptance criteria were met.

**Continuing Calibration:** WG390226 - The continuing calibration verification analyzed on 21-FEB-2012 at 18:38 yielded a noncompliant result for selenium. Since this CCV bracketed compliant interference check standards and did not bracket any client or batch QA/QC samples, no further action was taken.

**Continuing Calibration Blank:** All acceptance criteria were met.

**Low Level Check:** All acceptance criteria were met.

**BATCH QA/QC**

**Method Blank:** All acceptance criteria were met.

**Laboratory Control Sample:** All acceptance criteria were met.

**Serial Dilution/Post Digestion Spikes:** WG390226 - All acceptance criteria were met.

**Matrix Spikes:** All acceptance criteria were met.

**SAMPLES**

**Samples:** All acceptance criteria were met.

**Narrative ID:** 42518
**Approved By:** Sheri Pfalzgraf

**Login Number:** L12020592
**Department**: Metals - AA
**Analyst:** Pierce Morris

**METHOD**

**Preparation:** SW-846 7470

**Analysis:** SW-846 7470

**HOLDING TIMES**

**Sample Preparation:** All holding times were met.

**Sample Analysis:** All holding times were met.

**PREPARATION**

Sample preparation proceeded normally.

**CALIBRATION**

**Initial Calibration:** All acceptance criteria were met.

**Alternate Source Standards:** All acceptance criteria were met.

**Interference Check Standards:** All acceptance criteria were met.

**Continuing Calibration Verification:** All acceptance criteria were met.

**Continuing Calibration Blank:** WG390302 - The continuing calibration blank analyzed on 22-FEB-2012 at 14:28 yielded a noncompliant recovery for mercury. The CCB was reanalyzed prior to sample analysis and was compliant mercury.

**BATCH QA/QC**

**Method Blank:** All acceptance criteria were met.

**Laboratory Control Sample:** All acceptance criteria were met.

**Serial Dilution/Post Digestion Spikes:** WG390302 - All acceptance criteria were met.

**Matrix Spikes:** All acceptance criteria were met.

**SAMPLES**

**Samples:** All acceptance criteria were met.

**Narrative ID:** 42616
**Approved By:** Sheri Pfalzgraf

# Certificate of Analysis

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L12020592-01 | **PrePrep Method:** | N/A | **Instrument:** | HPMS11 |
| **Client ID:** | STP-WC-0212 | **Prep Method:** | 5030B/5030C/5035A | **Prep Date:** | N/A |
| **Matrix:** | Water | **Analytical Method:** | 8260B | **Cal Date:** | 01/19/2012 19:25 |
| **Workgroup #:** | WG390563 | **Analyst:** | TMB | **Run Date:** | 02/24/2012 14:24 |
| **Collect Date:** | 02/17/2012 12:40 | **Dilution:** | 10 | **File ID:** | 11M81410 |
| **Sample Tag:** | DL01 | **Units:** | ug/L | | |

| Analyte | CAS # | Result | Qual | LOQ | LOD |
|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 71-55-6 | | U | 10.0 | 2.50 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | | U | 10.0 | 2.00 |
| 1,1,2-Trichloroethane | 79-00-5 | | U | 10.0 | 2.50 |
| 1,1-Dichloroethane | 75-34-3 | | U | 10.0 | 1.25 |
| 1,1-Dichloroethene | 75-35-4 | | U | 10.0 | 5.00 |
| 1,2,3-Trichloropropane | 96-18-4 | | U | 10.0 | 5.00 |
| 1,2,4-Trichlorobenzene | 120-82-1 | | U | 10.0 | 2.00 |
| 1,2,4-Trimethylbenzene | 95-63-6 | | U | 10.0 | 2.50 |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | | U | 20.0 | 10.0 |
| 1,2-Dibromoethane | 106-93-4 | | U | 10.0 | 2.50 |
| 1,2-Dichlorobenzene | 95-50-1 | | U | 10.0 | 1.25 |
| 1,2-Dichloroethane | 107-06-2 | | U | 10.0 | 2.50 |
| 1,2-Dichloropropane | 78-87-5 | | U | 10.0 | 2.00 |
| 1,3,5-Trimethylbenzene | 108-67-8 | | U | 10.0 | 2.50 |
| 1,3-Dichlorobenzene | 541-73-1 | | U | 10.0 | 2.50 |
| 1,4-Dichlorobenzene | 106-46-7 | | U | 10.0 | 1.25 |
| 2-Butanone | 78-93-3 | | U | 50.0 | 25.0 |
| 2-Chlorotoluene | 95-49-8 | | U | 10.0 | 1.25 |
| 2-Hexanone | 591-78-6 | | U | 50.0 | 25.0 |
| 4-Chlorotoluene | 106-43-4 | | U | 10.0 | 2.50 |
| 4-Methyl-2-pentanone | 108-10-1 | | U | 50.0 | 25.0 |
| Acetone | 67-64-1 | 1160 | | 50.0 | 25.0 |
| Benzene | 71-43-2 | | U | 10.0 | 1.25 |
| Bromobenzene | 108-86-1 | | U | 10.0 | 1.25 |
| Bromodichloromethane | 75-27-4 | | U | 10.0 | 2.50 |
| Bromoform | 75-25-2 | | U | 10.0 | 5.00 |
| Bromomethane | 74-83-9 | | U | 10.0 | 5.00 |
| Carbon disulfide | 75-15-0 | | U | 10.0 | 5.00 |
| Carbon tetrachloride | 56-23-5 | | U | 10.0 | 2.50 |
| Chlorobenzene | 108-90-7 | | U | 10.0 | 1.25 |
| Chlorodibromomethane | 124-48-1 | | U | 10.0 | 2.50 |
| Chloroethane | 75-00-3 | | U | 10.0 | 5.00 |
| Chloroform | 67-66-3 | | U | 10.0 | 1.25 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | LOQ | LOD |
|---|---|---|---|---|---|
| Chloromethane | 74-87-3 | | U | 10.0 | 5.00 |
| cis-1,2-Dichloroethene | 156-59-2 | | U | 10.0 | 2.50 |
| cis-1,3-Dichloropropene | 10061-01-5 | | U | 10.0 | 2.50 |
| Dichlorodifluoromethane | 75-71-8 | | U | 10.0 | 2.50 |
| Ethylbenzene | 100-41-4 | | U | 10.0 | 2.50 |
| Hexachlorobutadiene | 87-68-3 | | U | 10.0 | 2.50 |
| Isopropylbenzene | 98-82-8 | | U | 10.0 | 2.50 |
| Methyl t-butyl ether (MTBE) | 1634-04-4 | | U | 10.0 | 5.00 |
| Methylene chloride | 75-09-2 | 2.64 | J | 10.0 | 2.50 |
| n-Butylbenzene | 104-51-8 | | U | 10.0 | 2.50 |
| n-Propylbenzene | 103-65-1 | | U | 10.0 | 1.25 |
| Naphthalene | 91-20-3 | | U | 10.0 | 2.00 |
| sec-Butylbenzene | 135-98-8 | | U | 10.0 | 2.50 |
| Styrene | 100-42-5 | | U | 10.0 | 1.25 |
| tert-Butylbenzene | 98-06-6 | | U | 10.0 | 2.50 |
| Tetrachloroethene | 127-18-4 | | U | 10.0 | 2.50 |
| Toluene | 108-88-3 | | U | 10.0 | 2.50 |
| trans-1,2-Dichloroethene | 156-60-5 | | U | 10.0 | 2.50 |
| trans-1,3-Dichloropropene | 10061-02-6 | | U | 10.0 | 5.00 |
| Trichloroethene | 79-01-6 | | U | 10.0 | 2.50 |
| Trichlorofluoromethane | 75-69-4 | | U | 10.0 | 2.50 |
| Vinyl acetate | 108-05-4 | | U | 50.0 | 25.0 |
| Vinyl chloride | 75-01-4 | | U | 10.0 | 2.50 |
| Xylenes | 1330-20-7 | | U | 10.0 | 5.00 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 97.6 | 70 | 120 | |
| 4-Bromofluorobenzene | 102 | 75 | 120 | |
| Dibromofluoromethane | 97.6 | 85 | 115 | |
| Toluene-d8 | 98.5 | 85 | 120 | |

| | |
|---|---|
| J | Estimated value ; the analyte concentration was less than the LOQ. |
| U | Analyte was not detected. The concentration is below the reported LOD. |

# Certificate of Analysis

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L12020592-01 | **PrePrep Method:** | N/A | **Instrument:** | HPMS5 |
| **Client ID:** | STP-WC-0212 | **Prep Method:** | 3510C | **Prep Date:** | 02/24/2012 08:30 |
| **Matrix:** | Water | **Analytical Method:** | 8270C | **Cal Date:** | 02/03/2012 12:30 |
| **Workgroup #:** | WG390662 | **Analyst:** | CAA | **Run Date:** | 02/27/2012 10:03 |
| **Collect Date:** | 02/17/2012 12:40 | **Dilution:** | 1 | **File ID:** | 5M66014 |
| **Sample Tag:** | 01 | **Units:** | ug/L | | |

| Analyte | CAS # | Result | Qual | LOQ | LOD |
|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 120-82-1 | | U | 10.8 | 2.69 |
| 1,2-Dichlorobenzene | 95-50-1 | | U | 10.8 | 2.69 |
| 1,3-Dichlorobenzene | 541-73-1 | | U | 10.8 | 2.69 |
| 1,4-Dichlorobenzene | 106-46-7 | | U | 10.8 | 2.69 |
| 2,4,5-Trichlorophenol | 95-95-4 | | U | 10.8 | 2.69 |
| 2,4,6-Trichlorophenol | 88-06-2 | | U | 10.8 | 2.69 |
| 2,4-Dichlorophenol | 120-83-2 | | U | 10.8 | 2.69 |
| 2,4-Dimethylphenol | 105-67-9 | | U | 10.8 | 2.69 |
| 2,4-Dinitrophenol | 51-28-5 | | U | 43.0 | 13.4 |
| 2,4-Dinitrotoluene | 121-14-2 | | U | 10.8 | 2.69 |
| 2,6-Dinitrotoluene | 606-20-2 | | U | 10.8 | 2.69 |
| 2-Chloronaphthalene | 91-58-7 | | U | 10.8 | 2.69 |
| 2-Chlorophenol | 95-57-8 | | U | 10.8 | 2.69 |
| 2-Methylnaphthalene | 91-57-6 | | U | 10.8 | 2.69 |
| 2-Methylphenol | 95-48-7 | | U | 10.8 | 2.69 |
| 2-Nitroaniline | 88-74-4 | | U | 43.0 | 13.4 |
| 2-Nitrophenol | 88-75-5 | | U | 10.8 | 2.69 |
| 3,3'-Dichlorobenzidine | 91-94-1 | | U | 10.8 | 2.69 |
| 3-,4-Methylphenol | 106-44-5 | | U | 10.8 | 2.69 |
| 3-Nitroaniline | 99-09-2 | | U | 43.0 | 13.4 |
| 4,6-Dinitro-2-methylphenol | 534-52-1 | | U | 43.0 | 13.4 |
| 4-Bromophenyl-phenylether | 101-55-3 | | U | 10.8 | 2.69 |
| 4-Chloro-3-methylphenol | 59-50-7 | | U | 10.8 | 2.69 |
| 4-Chloroaniline | 106-47-8 | | U | 10.8 | 2.69 |
| 4-Chlorophenyl-phenyl ether | 7005-72-3 | | U | 10.8 | 2.69 |
| 4-Nitroaniline | 100-01-6 | | U | 43.0 | 13.4 |
| 4-Nitrophenol | 100-02-7 | | U | 43.0 | 13.4 |
| Acenaphthene | 83-32-9 | | U | 10.8 | 2.69 |
| Acenaphthylene | 208-96-8 | | U | 10.8 | 2.69 |
| Anthracene | 120-12-7 | | U | 10.8 | 2.69 |
| Benzo(a)anthracene | 56-55-3 | | U | 10.8 | 2.69 |
| Benzo(a)pyrene | 50-32-8 | | U | 10.8 | 2.69 |
| Benzo(b)fluoranthene | 205-99-2 | | U | 10.8 | 2.69 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | LOQ | LOD |
|---|---|---|---|---|---|
| Benzo(g,h,i)Perylene | 191-24-2 | | U | 10.8 | 2.69 |
| Benzo(k)fluoranthene | 207-08-9 | | U | 10.8 | 2.69 |
| Benzoic acid | 65-85-0 | | U | 43.0 | 13.4 |
| Benzyl alcohol | 100-51-6 | | U | 10.8 | 2.69 |
| Bis(2-Chloroethoxy)Methane | 111-91-1 | | U | 10.8 | 2.69 |
| Bis(2-Chloroethyl)ether | 111-44-4 | | U | 10.8 | 2.69 |
| bis(2-Chloroisopropyl)ether | 108-60-1 | | U | 10.8 | 2.69 |
| bis(2-Ethylhexyl)phthalate | 117-81-7 | | U | 10.8 | 3.23 |
| Butylbenzylphthalate | 85-68-7 | | U | 10.8 | 2.69 |
| Chrysene | 218-01-9 | | U | 10.8 | 2.69 |
| Di-N-Butylphthalate | 84-74-2 | | U | 10.8 | 2.69 |
| Di-n-octylphthalate | 117-84-0 | | U | 10.8 | 2.69 |
| Dibenzo(a,h)Anthracene | 53-70-3 | | U | 10.8 | 2.69 |
| Dibenzofuran | 132-64-9 | | U | 10.8 | 2.69 |
| Diethylphthalate | 84-66-2 | | U | 10.8 | 2.69 |
| Dimethylphthalate | 131-11-3 | | U | 10.8 | 2.69 |
| Fluoranthene | 206-44-0 | | U | 10.8 | 2.69 |
| Fluorene | 86-73-7 | | U | 10.8 | 2.69 |
| Hexachlorobenzene | 118-74-1 | | U | 10.8 | 2.69 |
| Hexachlorobutadiene | 87-68-3 | | U | 10.8 | 2.69 |
| Hexachlorocyclopentadiene | 77-47-4 | | U | 10.8 | 2.69 |
| Hexachloroethane | 67-72-1 | | U | 10.8 | 2.69 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | U | 10.8 | 2.69 |
| Isophorone | 78-59-1 | | U | 10.8 | 2.69 |
| N-Nitroso-di-n-propylamine | 621-64-7 | | U | 10.8 | 2.69 |
| N-Nitrosodiphenylamine | 86-30-6 | | U | 10.8 | 2.69 |
| Naphthalene | 91-20-3 | | U | 10.8 | 2.69 |
| Nitrobenzene | 98-95-3 | | U | 10.8 | 2.69 |
| Pentachlorophenol | 87-86-5 | | U | 43.0 | 13.4 |
| Phenanthrene | 85-01-8 | | U | 10.8 | 2.69 |
| Phenol | 108-95-2 | | U | 10.8 | 2.69 |
| Pyrene | 129-00-0 | | U | 10.8 | 2.69 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2,4,6-Tribromophenol | 86.2 | 40 | 125 | |
| 2-Fluorobiphenyl | 57.9 | 50 | 110 | |
| 2-Fluorophenol | 36.0 | 20 | 110 | |
| Nitrobenzene-d5 | 57.2 | 40 | 110 | |
| p-Terphenyl-d14 | 81.0 | 50 | 135 | |
| Phenol-d5 | 23.4 | 10 | 115 | |

| | |
|---|---|
| U | Analyte was not detected. The concentration is below the reported LOD. |

**Sample #:** L12020592-01 **PrePrep Method:** N/A **Instrument:** ICP-THERMO2
**Client ID:** STP-WC-0212 **Prep Method:** 3005A **Prep Date:** 02/21/2012 07:45
**Matrix:** Water **Analytical Method:** 6010B **Cal Date:** 02/27/2012 08:50
**Workgroup #:** WG390680 **Analyst:** KHR **Run Date:** 02/27/2012 11:04
**Collect Date:** 02/17/2012 12:40 **Dilution:** 1 **File ID:** T2.022712.110449
**Sample Tag:** 01 **Units:** mg/L

| Analyte | CAS # | Result | Qual | LOQ | LOD |
|---|---|---|---|---|---|
| Arsenic, Total | 7440-38-2 | | U | 0.0100 | 0.00500 |
| Barium, Total | 7440-39-3 | 0.0219 | | 0.0100 | 0.00500 |
| Cadmium, Total | 7440-43-9 | | U | 0.0100 | 0.00500 |
| Chromium, Total | 7440-47-3 | | U | 0.0200 | 0.0100 |
| Lead, Total | 7439-92-1 | | U | 0.00500 | 0.00250 |
| Silver, Total | 7440-22-4 | | U | 0.0100 | 0.00500 |

| | |
|---|---|
| U | Analyte was not detected. The concentration is below the reported LOD. |

**Sample #:** L12020592-01 **PrePrep Method:** N/A **Instrument:** ELAN-ICP
**Client ID:** STP-WC-0212 **Prep Method:** 3015 **Prep Date:** 02/21/2012 07:55
**Matrix:** Water **Analytical Method:** 6020 **Cal Date:** 02/21/2012 10:39
**Workgroup #:** WG390226 **Analyst:** EDL **Run Date:** 02/21/2012 23:40
**Collect Date:** 02/17/2012 12:40 **Dilution:** 1 **File ID:** EL.022112.234015
**Sample Tag:** 01 **Units:** mg/L

| Analyte | CAS # | Result | Qual | LOQ | LOD |
|---|---|---|---|---|---|
| Selenium, Total | 7782-49-2 | 0.00564 | | 0.00100 | 0.000500 |

**Sample #:** L12020592-01 **PrePrep Method:** N/A **Instrument:** HYDRA
**Client ID:** STP-WC-0212 **Prep Method:** 7470A **Prep Date:** 02/21/2012 09:35
**Matrix:** Water **Analytical Method:** 7470A **Cal Date:** 02/22/2012 13:07
**Workgroup #:** WG390302 **Analyst:** PDM **Run Date:** 02/22/2012 14:49
**Collect Date:** 02/17/2012 12:40 **Dilution:** 1 **File ID:** HY.022212.144950
**Sample Tag:** 01 **Units:** mg/L

| Analyte | CAS # | Result | Qual | LOQ | LOD |
|---|---|---|---|---|---|
| Mercury | 7439-97-6 | | U | 0.000200 | 0.000100 |

| | |
|---|---|
| U | Analyte was not detected. The concentration is below the reported LOD. |

Certificate of Analysis

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L12020592-01 | **PrePrep Method:** | N/A | **Instrument:** | ORION-4STAR |
| **Client ID:** | STP-WC-0212 | **Prep Method:** | 9040C | **Prep Date:** | N/A |
| **Matrix:** | Water | **Analytical Method:** | 9040C | **Cal Date:** | |
| **Workgroup #:** | WG390171 | **Analyst:** | DLP | **Run Date:** | 02/20/2012 16:50 |
| **Collect Date:** | 02/17/2012 12:40 | **Dilution:** | 1 | **File ID:** | OS12022413581401 |
| **Sample Tag:** | | **Units:** | UNITS | | |

| Analyte | CAS # | Result | Qual | LOQ | LOD |
|---|---|---|---|---|---|
| Corrosivity pH | 10-29-7 | 7.98 | | 0.000 | 0.000 |

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L12020592-02 | **PrePrep Method:** | N/A | **Instrument:** | HPMS6 |
| **Client ID:** | HTA-WC-0212 | **Prep Method:** | 5030B/5030C/5035A | **Prep Date:** | N/A |
| **Matrix:** | Water | **Analytical Method:** | 8260B | **Cal Date:** | 02/13/2012 18:44 |
| **Workgroup #:** | WG390592 | **Analyst:** | ADC | **Run Date:** | 02/24/2012 17:13 |
| **Collect Date:** | 02/17/2012 12:45 | **Dilution:** | 1 | **File ID:** | 6M105978 |
| **Sample Tag:** | 01 | **Units:** | ug/L | | |

| Analyte | CAS # | Result | Qual | LOQ | LOD |
|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 71-55-6 | | U | 1.00 | 0.250 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | | U | 1.00 | 0.200 |
| 1,1,2-Trichloroethane | 79-00-5 | | U | 1.00 | 0.250 |
| 1,1-Dichloroethane | 75-34-3 | | U | 1.00 | 0.125 |
| 1,1-Dichloroethene | 75-35-4 | | U | 1.00 | 0.500 |
| 1,2,3-Trichloropropane | 96-18-4 | | U | 1.00 | 0.500 |
| 1,2,4-Trichlorobenzene | 120-82-1 | | U | 1.00 | 0.200 |
| 1,2,4-Trimethylbenzene | 95-63-6 | | U | 1.00 | 0.250 |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | | U | 2.00 | 1.00 |
| 1,2-Dibromoethane | 106-93-4 | | U | 1.00 | 0.250 |
| 1,2-Dichlorobenzene | 95-50-1 | | U | 1.00 | 0.125 |
| 1,2-Dichloroethane | 107-06-2 | | U | 1.00 | 0.250 |
| 1,2-Dichloropropane | 78-87-5 | | U | 1.00 | 0.200 |
| 1,3,5-Trimethylbenzene | 108-67-8 | | U | 1.00 | 0.250 |
| 1,3-Dichlorobenzene | 541-73-1 | | U | 1.00 | 0.250 |
| 1,4-Dichlorobenzene | 106-46-7 | | U | 1.00 | 0.125 |
| 2-Butanone | 78-93-3 | 3.03 | J | 5.00 | 2.50 |
| 2-Chlorotoluene | 95-49-8 | | U | 1.00 | 0.125 |
| 2-Hexanone | 591-78-6 | | U | 5.00 | 2.50 |
| 4-Chlorotoluene | 106-43-4 | | U | 1.00 | 0.250 |
| 4-Methyl-2-pentanone | 108-10-1 | | U | 5.00 | 2.50 |
| Acetone | 67-64-1 | 28.4 | | 5.00 | 2.50 |
| Benzene | 71-43-2 | | U | 1.00 | 0.125 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | LOQ | LOD |
|---|---|---|---|---|---|
| Bromobenzene | 108-86-1 | | U | 1.00 | 0.125 |
| Bromodichloromethane | 75-27-4 | | U | 1.00 | 0.250 |
| Bromoform | 75-25-2 | | U | 1.00 | 0.500 |
| Bromomethane | 74-83-9 | | U | 1.00 | 0.500 |
| Carbon disulfide | 75-15-0 | | U | 1.00 | 0.500 |
| Carbon tetrachloride | 56-23-5 | | U | 1.00 | 0.250 |
| Chlorobenzene | 108-90-7 | | U | 1.00 | 0.125 |
| Chlorodibromomethane | 124-48-1 | | U | 1.00 | 0.250 |
| Chloroethane | 75-00-3 | | U | 1.00 | 0.500 |
| Chloroform | 67-66-3 | | U | 1.00 | 0.125 |
| Chloromethane | 74-87-3 | | U | 1.00 | 0.500 |
| cis-1,2-Dichloroethene | 156-59-2 | | U | 1.00 | 0.250 |
| cis-1,3-Dichloropropene | 10061-01-5 | | U | 1.00 | 0.250 |
| Dichlorodifluoromethane | 75-71-8 | | U | 1.00 | 0.250 |
| Ethylbenzene | 100-41-4 | | U | 1.00 | 0.250 |
| Hexachlorobutadiene | 87-68-3 | | U | 1.00 | 0.250 |
| Isopropylbenzene | 98-82-8 | | U | 1.00 | 0.250 |
| Methyl t-butyl ether (MTBE) | 1634-04-4 | | U | 1.00 | 0.500 |
| Methylene chloride | 75-09-2 | | U | 1.00 | 0.250 |
| n-Butylbenzene | 104-51-8 | | U | 1.00 | 0.250 |
| n-Propylbenzene | 103-65-1 | | U | 1.00 | 0.125 |
| Naphthalene | 91-20-3 | | U | 1.00 | 0.200 |
| sec-Butylbenzene | 135-98-8 | | U | 1.00 | 0.250 |
| Styrene | 100-42-5 | | U | 1.00 | 0.125 |
| tert-Butylbenzene | 98-06-6 | | U | 1.00 | 0.250 |
| Tetrachloroethene | 127-18-4 | | U | 1.00 | 0.250 |
| Toluene | 108-88-3 | | U | 1.00 | 0.250 |
| trans-1,2-Dichloroethene | 156-60-5 | | U | 1.00 | 0.250 |
| trans-1,3-Dichloropropene | 10061-02-6 | | U | 1.00 | 0.500 |
| Trichloroethene | 79-01-6 | | U | 1.00 | 0.250 |
| Trichlorofluoromethane | 75-69-4 | | U | 1.00 | 0.250 |
| Vinyl acetate | 108-05-4 | | U | 5.00 | 2.50 |
| Vinyl chloride | 75-01-4 | | U | 1.00 | 0.250 |
| Xylenes | 1330-20-7 | | U | 1.00 | 0.500 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 90.5 | 70 | 120 | |
| 4-Bromofluorobenzene | 98.6 | 75 | 120 | |
| Dibromofluoromethane | 89.9 | 85 | 115 | |
| Toluene-d8 | 97.0 | 85 | 120 | |

Certificate of Analysis

| | |
|---|---|
| J | Estimated value ; the analyte concentration was less than the LOQ. |
| U | Analyte was not detected. The concentration is below the reported LOD. |

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L12020592-02 | **PrePrep Method:** | N/A | **Instrument:** | HPMS5 |
| **Client ID:** | HTA-WC-0212 | **Prep Method:** | 3510C | **Prep Date:** | 02/24/2012 08:30 |
| **Matrix:** | Water | **Analytical Method:** | 8270C | **Cal Date:** | 02/03/2012 12:30 |
| **Workgroup #:** | WG390662 | **Analyst:** | CAA | **Run Date:** | 02/27/2012 10:37 |
| **Collect Date:** | 02/17/2012 12:45 | **Dilution:** | 1 | **File ID:** | 5M66015 |
| **Sample Tag:** | 01 | **Units:** | ug/L | | |

| Analyte | CAS # | Result | Qual | LOQ | LOD |
|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 120-82-1 | | U | 11.2 | 2.81 |
| 1,2-Dichlorobenzene | 95-50-1 | | U | 11.2 | 2.81 |
| 1,3-Dichlorobenzene | 541-73-1 | | U | 11.2 | 2.81 |
| 1,4-Dichlorobenzene | 106-46-7 | | U | 11.2 | 2.81 |
| 2,4,5-Trichlorophenol | 95-95-4 | | U | 11.2 | 2.81 |
| 2,4,6-Trichlorophenol | 88-06-2 | | U | 11.2 | 2.81 |
| 2,4-Dichlorophenol | 120-83-2 | | U | 11.2 | 2.81 |
| 2,4-Dimethylphenol | 105-67-9 | | U | 11.2 | 2.81 |
| 2,4-Dinitrophenol | 51-28-5 | | U | 44.9 | 14.0 |
| 2,4-Dinitrotoluene | 121-14-2 | | U | 11.2 | 2.81 |
| 2,6-Dinitrotoluene | 606-20-2 | | U | 11.2 | 2.81 |
| 2-Chloronaphthalene | 91-58-7 | | U | 11.2 | 2.81 |
| 2-Chlorophenol | 95-57-8 | | U | 11.2 | 2.81 |
| 2-Methylnaphthalene | 91-57-6 | | U | 11.2 | 2.81 |
| 2-Methylphenol | 95-48-7 | | U | 11.2 | 2.81 |
| 2-Nitroaniline | 88-74-4 | | U | 44.9 | 14.0 |
| 2-Nitrophenol | 88-75-5 | | U | 11.2 | 2.81 |
| 3,3'-Dichlorobenzidine | 91-94-1 | | U | 11.2 | 2.81 |
| 3-,4-Methylphenol | 106-44-5 | | U | 11.2 | 2.81 |
| 3-Nitroaniline | 99-09-2 | | U | 44.9 | 14.0 |
| 4,6-Dinitro-2-methylphenol | 534-52-1 | | U | 44.9 | 14.0 |
| 4-Bromophenyl-phenylether | 101-55-3 | | U | 11.2 | 2.81 |
| 4-Chloro-3-methylphenol | 59-50-7 | | U | 11.2 | 2.81 |
| 4-Chloroaniline | 106-47-8 | | U | 11.2 | 2.81 |
| 4-Chlorophenyl-phenyl ether | 7005-72-3 | | U | 11.2 | 2.81 |
| 4-Nitroaniline | 100-01-6 | | U | 44.9 | 14.0 |
| 4-Nitrophenol | 100-02-7 | | U | 44.9 | 14.0 |
| Acenaphthene | 83-32-9 | | U | 11.2 | 2.81 |
| Acenaphthylene | 208-96-8 | | U | 11.2 | 2.81 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | LOQ | LOD |
|---|---|---|---|---|---|
| Anthracene | 120-12-7 | | U | 11.2 | 2.81 |
| Benzo(a)anthracene | 56-55-3 | | U | 11.2 | 2.81 |
| Benzo(a)pyrene | 50-32-8 | | U | 11.2 | 2.81 |
| Benzo(b)fluoranthene | 205-99-2 | | U | 11.2 | 2.81 |
| Benzo(g,h,i)Perylene | 191-24-2 | | U | 11.2 | 2.81 |
| Benzo(k)fluoranthene | 207-08-9 | | U | 11.2 | 2.81 |
| Benzoic acid | 65-85-0 | | U | 44.9 | 14.0 |
| Benzyl alcohol | 100-51-6 | | U | 11.2 | 2.81 |
| Bis(2-Chloroethoxy)Methane | 111-91-1 | | U | 11.2 | 2.81 |
| Bis(2-Chloroethyl)ether | 111-44-4 | | U | 11.2 | 2.81 |
| bis(2-Chloroisopropyl)ether | 108-60-1 | | U | 11.2 | 2.81 |
| bis(2-Ethylhexyl)phthalate | 117-81-7 | 7.61 | J | 11.2 | 3.37 |
| Butylbenzylphthalate | 85-68-7 | | U | 11.2 | 2.81 |
| Chrysene | 218-01-9 | | U | 11.2 | 2.81 |
| Di-N-Butylphthalate | 84-74-2 | | U | 11.2 | 2.81 |
| Di-n-octylphthalate | 117-84-0 | | U | 11.2 | 2.81 |
| Dibenzo(a,h)Anthracene | 53-70-3 | | U | 11.2 | 2.81 |
| Dibenzofuran | 132-64-9 | | U | 11.2 | 2.81 |
| Diethylphthalate | 84-66-2 | | U | 11.2 | 2.81 |
| Dimethylphthalate | 131-11-3 | | U | 11.2 | 2.81 |
| Fluoranthene | 206-44-0 | | U | 11.2 | 2.81 |
| Fluorene | 86-73-7 | | U | 11.2 | 2.81 |
| Hexachlorobenzene | 118-74-1 | | U | 11.2 | 2.81 |
| Hexachlorobutadiene | 87-68-3 | | U | 11.2 | 2.81 |
| Hexachlorocyclopentadiene | 77-47-4 | | U | 11.2 | 2.81 |
| Hexachloroethane | 67-72-1 | | U | 11.2 | 2.81 |
| Indeno(1,2,3-cd)pyrene | 193-39-5 | | U | 11.2 | 2.81 |
| Isophorone | 78-59-1 | | U | 11.2 | 2.81 |
| N-Nitroso-di-n-propylamine | 621-64-7 | | U | 11.2 | 2.81 |
| N-Nitrosodiphenylamine | 86-30-6 | | U | 11.2 | 2.81 |
| Naphthalene | 91-20-3 | | U | 11.2 | 2.81 |
| Nitrobenzene | 98-95-3 | | U | 11.2 | 2.81 |
| Pentachlorophenol | 87-86-5 | | U | 44.9 | 14.0 |
| Phenanthrene | 85-01-8 | | U | 11.2 | 2.81 |
| Phenol | 108-95-2 | | U | 11.2 | 2.81 |
| Pyrene | 129-00-0 | | U | 11.2 | 2.81 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2,4,6-Tribromophenol | 88.9 | 40 | 125 | |
| 2-Fluorobiphenyl | 59.8 | 50 | 110 | |

Certificate of Analysis

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 2-Fluorophenol | 42.2 | 20 | 110 | |
| Nitrobenzene-d5 | 53.4 | 40 | 110 | |
| p-Terphenyl-d14 | 76.6 | 50 | 135 | |
| Phenol-d5 | 26.0 | 10 | 115 | |

| | |
|---|---|
| J | Estimated value ; the analyte concentration was less than the LOQ. |
| U | Analyte was not detected. The concentration is below the reported LOD. |

**Sample #:** L12020592-02 **PrePrep Method:** N/A **Instrument:** ICP-THERMO2
**Client ID:** HTA-WC-0212 **Prep Method:** 3005A **Prep Date:** 02/21/2012 07:45
**Matrix:** Water **Analytical Method:** 6010B **Cal Date:** 02/27/2012 08:50
**Workgroup #:** WG390680 **Analyst:** KHR **Run Date:** 02/27/2012 11:08
**Collect Date:** 02/17/2012 12:45 **Dilution:** 1 **File ID:** T2.022712.110807
**Sample Tag:** 01 **Units:** mg/L

| Analyte | CAS # | Result | Qual | LOQ | LOD |
|---|---|---|---|---|---|
| Arsenic, Total | 7440-38-2 | | U | 0.0100 | 0.00500 |
| Barium, Total | 7440-39-3 | 0.0355 | | 0.0100 | 0.00500 |
| Cadmium, Total | 7440-43-9 | | U | 0.0100 | 0.00500 |
| Chromium, Total | 7440-47-3 | | U | 0.0200 | 0.0100 |
| Lead, Total | 7439-92-1 | | U | 0.00500 | 0.00250 |
| Silver, Total | 7440-22-4 | | U | 0.0100 | 0.00500 |

| | |
|---|---|
| U | Analyte was not detected. The concentration is below the reported LOD. |

**Sample #:** L12020592-02 **PrePrep Method:** N/A **Instrument:** ELAN-ICP
**Client ID:** HTA-WC-0212 **Prep Method:** 3015 **Prep Date:** 02/21/2012 07:55
**Matrix:** Water **Analytical Method:** 6020 **Cal Date:** 02/21/2012 10:39
**Workgroup #:** WG390226 **Analyst:** EDL **Run Date:** 02/21/2012 23:48
**Collect Date:** 02/17/2012 12:45 **Dilution:** 1 **File ID:** EL.022112.234802
**Sample Tag:** 01 **Units:** mg/L

| Analyte | CAS # | Result | Qual | LOQ | LOD |
|---|---|---|---|---|---|
| Selenium, Total | 7782-49-2 | 0.00486 | | 0.00100 | 0.000500 |

Certificate of Analysis

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L12020592-02 | **PrePrep Method:** | N/A | **Instrument:** | HYDRA |
| **Client ID:** | HTA-WC-0212 | **Prep Method:** | 7470A | **Prep Date:** | 02/21/2012 09:35 |
| **Matrix:** | Water | **Analytical Method:** | 7470A | **Cal Date:** | 02/22/2012 13:07 |
| **Workgroup #:** | WG390302 | **Analyst:** | PDM | **Run Date:** | 02/22/2012 14:51 |
| **Collect Date:** | 02/17/2012 12:45 | **Dilution:** | 1 | **File ID:** | HY.022212.145132 |
| **Sample Tag:** | 01 | **Units:** | mg/L | | |

| Analyte | CAS # | Result | Qual | LOQ | LOD |
|---|---|---|---|---|---|
| Mercury | 7439-97-6 | | U | 0.000200 | 0.000100 |

| | |
|---|---|
| U | Analyte was not detected. The concentration is below the reported LOD. |

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L12020592-02 | **PrePrep Method:** | N/A | **Instrument:** | ORION-4STAR |
| **Client ID:** | HTA-WC-0212 | **Prep Method:** | 9040C | **Prep Date:** | N/A |
| **Matrix:** | Water | **Analytical Method:** | 9040C | **Cal Date:** | |
| **Workgroup #:** | WG390171 | **Analyst:** | DLP | **Run Date:** | 02/20/2012 16:50 |
| **Collect Date:** | 02/17/2012 12:45 | **Dilution:** | 1 | **File ID:** | OS12022413581901 |
| **Sample Tag:** | | **Units:** | UNITS | | |

| Analyte | CAS # | Result | Qual | LOQ | LOD |
|---|---|---|---|---|---|
| Corrosivity pH | 10-29-7 | 7.44 | | 0.000 | 0.000 |

| | | | | | |
|---|---|---|---|---|---|
| **Sample #:** | L12020592-03 | **PrePrep Method:** | N/A | **Instrument:** | HPMS11 |
| **Client ID:** | TRIP BLANK | **Prep Method:** | 5030B/5030C/5035A | **Prep Date:** | N/A |
| **Matrix:** | Water | **Analytical Method:** | 8260B | **Cal Date:** | 01/19/2012 19:25 |
| **Workgroup #:** | WG390495 | **Analyst:** | TMB | **Run Date:** | 02/23/2012 18:47 |
| **Collect Date:** | 02/17/2012 00:01 | **Dilution:** | 1 | **File ID:** | 11M81380 |
| **Sample Tag:** | 01 | **Units:** | ug/L | | |

| Analyte | CAS # | Result | Qual | LOQ | LOD |
|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 71-55-6 | | U | 1.00 | 0.250 |
| 1,1,2,2-Tetrachloroethane | 79-34-5 | | U | 1.00 | 0.200 |
| 1,1,2-Trichloroethane | 79-00-5 | | U | 1.00 | 0.250 |
| 1,1-Dichloroethane | 75-34-3 | | U | 1.00 | 0.125 |
| 1,1-Dichloroethene | 75-35-4 | | U | 1.00 | 0.500 |
| 1,2,3-Trichloropropane | 96-18-4 | | U | 1.00 | 0.500 |
| 1,2,4-Trichlorobenzene | 120-82-1 | | U | 1.00 | 0.200 |
| 1,2,4-Trimethylbenzene | 95-63-6 | | U | 1.00 | 0.250 |
| 1,2-Dibromo-3-chloropropane | 96-12-8 | | U | 2.00 | 1.00 |
| 1,2-Dibromoethane | 106-93-4 | | U | 1.00 | 0.250 |
| 1,2-Dichlorobenzene | 95-50-1 | | U | 1.00 | 0.125 |
| 1,2-Dichloroethane | 107-06-2 | | U | 1.00 | 0.250 |
| 1,2-Dichloropropane | 78-87-5 | | U | 1.00 | 0.200 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | LOQ | LOD |
|---|---|---|---|---|---|
| 1,3,5-Trimethylbenzene | 108-67-8 | | U | 1.00 | 0.250 |
| 1,3-Dichlorobenzene | 541-73-1 | | U | 1.00 | 0.250 |
| 1,4-Dichlorobenzene | 106-46-7 | | U | 1.00 | 0.125 |
| 2-Butanone | 78-93-3 | | U | 5.00 | 2.50 |
| 2-Chlorotoluene | 95-49-8 | | U | 1.00 | 0.125 |
| 2-Hexanone | 591-78-6 | | U | 5.00 | 2.50 |
| 4-Chlorotoluene | 106-43-4 | | U | 1.00 | 0.250 |
| 4-Methyl-2-pentanone | 108-10-1 | | U | 5.00 | 2.50 |
| Acetone | 67-64-1 | | U | 5.00 | 2.50 |
| Benzene | 71-43-2 | | U | 1.00 | 0.125 |
| Bromobenzene | 108-86-1 | | U | 1.00 | 0.125 |
| Bromodichloromethane | 75-27-4 | | U | 1.00 | 0.250 |
| Bromoform | 75-25-2 | | U | 1.00 | 0.500 |
| Bromomethane | 74-83-9 | | U | 1.00 | 0.500 |
| Carbon disulfide | 75-15-0 | | U | 1.00 | 0.500 |
| Carbon tetrachloride | 56-23-5 | | U | 1.00 | 0.250 |
| Chlorobenzene | 108-90-7 | | U | 1.00 | 0.125 |
| Chlorodibromomethane | 124-48-1 | | U | 1.00 | 0.250 |
| Chloroethane | 75-00-3 | | U | 1.00 | 0.500 |
| Chloroform | 67-66-3 | | U | 1.00 | 0.125 |
| Chloromethane | 74-87-3 | | U | 1.00 | 0.500 |
| cis-1,2-Dichloroethene | 156-59-2 | | U | 1.00 | 0.250 |
| cis-1,3-Dichloropropene | 10061-01-5 | | U | 1.00 | 0.250 |
| Dichlorodifluoromethane | 75-71-8 | | U | 1.00 | 0.250 |
| Ethylbenzene | 100-41-4 | | U | 1.00 | 0.250 |
| Hexachlorobutadiene | 87-68-3 | | U | 1.00 | 0.250 |
| Isopropylbenzene | 98-82-8 | | U | 1.00 | 0.250 |
| Methyl t-butyl ether (MTBE) | 1634-04-4 | | U | 1.00 | 0.500 |
| Methylene chloride | 75-09-2 | | U | 1.00 | 0.250 |
| n-Butylbenzene | 104-51-8 | | U | 1.00 | 0.250 |
| n-Propylbenzene | 103-65-1 | | U | 1.00 | 0.125 |
| Naphthalene | 91-20-3 | | U | 1.00 | 0.200 |
| sec-Butylbenzene | 135-98-8 | | U | 1.00 | 0.250 |
| Styrene | 100-42-5 | | U | 1.00 | 0.125 |
| tert-Butylbenzene | 98-06-6 | | U | 1.00 | 0.250 |
| Tetrachloroethene | 127-18-4 | | U | 1.00 | 0.250 |
| Toluene | 108-88-3 | | U | 1.00 | 0.250 |
| trans-1,2-Dichloroethene | 156-60-5 | | U | 1.00 | 0.250 |
| trans-1,3-Dichloropropene | 10061-02-6 | | U | 1.00 | 0.500 |

Certificate of Analysis

| Analyte | CAS # | Result | Qual | LOQ | LOD |
|---|---|---|---|---|---|
| Trichloroethene | 79-01-6 | | U | 1.00 | 0.250 |
| Trichlorofluoromethane | 75-69-4 | | U | 1.00 | 0.250 |
| Vinyl acetate | 108-05-4 | | U | 5.00 | 2.50 |
| Vinyl chloride | 75-01-4 | | U | 1.00 | 0.250 |
| Xylenes | 1330-20-7 | | U | 1.00 | 0.500 |

| Surrogate | Recovery | Lower Limit | Upper Limit | Q |
|---|---|---|---|---|
| 1,2-Dichloroethane-d4 | 102 | 70 | 120 | |
| 4-Bromofluorobenzene | 99.6 | 75 | 120 | |
| Dibromofluoromethane | 99.7 | 85 | 115 | |
| Toluene-d8 | 99.1 | 85 | 120 | |

| | |
|---|---|
| U | Analyte was not detected. The concentration is below the reported LOD. |

Microbac Laboratories Inc.
Ohio Valley Division Analyst List
March 5, 2012

| | | |
|---|---|---|
| ADC – ANTHONY D. CANTER | AJF – AMANDA J. FICKIESEN | ALB – ANNIE L. BROWN |
| ALV – AMY L. VALENTINE | AML – TONY M. LONG | AZH – AFTER HOURS |
| BLG – BRENDA L. GREENWALT | BRG – BRENDA R. GREGORY | CAA – CASSIE A. AUGENSTEIN |
| CAF – CHERYL A. FLOWERS | CEB – CHAD E. BARNES | CLC – CHRYS L. CRAWFORD |
| CLS – CARA L. STRICKLER | CLW – CHARISSA L. WINTERS | CPD – CHAD P. DAVIS |
| CS – CODY M. STRAHLER | CSH – CHRIS S. HILL | DDE – DEBRA D. ELLIOTT |
| DEV – DAVID E. VANDENBERG | DGB – DOUGLAS G. BUTCHER | DHG – DEBORAH H. GRIFFITHS |
| DIH – DEANNA I. HESSON | DLB – DAVID L. BUMGARNER | DLP – DOROTHY L. PAYNE |
| DLR – DIANNA L. RAUCH | DSM – DAVID S. MOSSOR | ECL – ERIC C. LAWSON |
| EDL – ERIN D. LONG | ERP – ERIN R. PORTER | FJB – FRANCES J. BOLDEN |
| HAV – HEMA VILASAGAR | HJR – HOLLY J. REED | JAL – JOHN A. LENT |
| JBK – JEREMY B. KINNEY | JDH – JUSTIN D. HESSON | JKS – JANE K. SCHAAD |
| JLL – JOHN L. LENT | JWR – JOHN W. RICHARDS | JWS – JACK W. SHEAVES |
| JYH – JI Y. HU | KEB – KATIE E. BARNES | KHR – KIM H. RHODES |
| KRA – KATHY R. ALBERTSON | LKN – LINDA K. NEDEFF | LSB – LESLIE S. BUCINA |
| MDA – MIKE D. ALBERTSON | MDC – MIKE D. COCHRAN | MES – MARY E. SCHILLING |
| MMB – MAREN M. BEERY | MRT – MICHELLE R. TAYLOR | MSW – MATT S. WILSON |
| PDM – PIERCE D. MORRIS | PWD – PAUL W. DENT | RAH – ROY A. HALSTEAD |
| REK – BOB E. KYER | RLB – BOB BUCHANAN | RLK – ROBIN L. KLINGER |
| RWC – RODNEY W. CAMPBELL | SJP – SUZANNE J. PAUGH | SLM – STEPHANIE L. MOSSBURG |
| SLP – SHERI L. PFALZGRAF | TIP – TAE I. PARRISH | TMB – TIFFANY M. BAILEY |
| TMM – TAMMY M. MORRIS | VC – VICKI COLLIER | WJB – WILL J. BEASLEY |
| WTD – WADE T. DELONG | | |

Microbac Laboratories Inc.
List of Valid Qualifiers
March 05, 2012

Qualkey: DOD

| Qualifier | Description |
|---|---|
| * | Surrogate or spike compound out of range |
| + | Correlation coefficient for the MSA is less than 0.995 |
| < | Result is less than the associated numerical value. |
| > | Result is greater than the associated numerical value. |
| A | See the report narrative |
| B | The reported result is associated with a contaminated method blank. |
| B1 | Target analyte detected in method blank at or above the method reporting limit |
| B3 | Target analyte detected in calibration blank at or above the method reporting limit |
| B4 | The BOD unseeded dilution water blank exceeded 0.2 mg/L |
| C | Confirmed by GC/MS |
| CG | Confluent growth |
| DL | Surrogate or spike compound was diluted out |
| E | Estimated concentration due to sample matrix interference |
| EDL | Elevated sample reporting limits, presence of non-target analytes |
| EMPC | Estimated Maximum Possible Concentration |
| F, S | Estimated result below quantitation limit; method of standard additions(MSA) |
| FL | Free Liquid |
| H1 | Sample analysis performed past holding time. |
| I | Semiquantitative result (out of instrument calibration range) |
| J | Estimated concentration; sample matrix interference. |
| J | Estimated value ; the analyte concentration was greater than the highest standard |
| J | Estimated value ; the analyte concentration was less than the LOQ. |
| J | The reported result is an estimated value. |
| J,B | Analyte detected in both the method blank and sample above the MDL. |
| J,P | Estimate; columns don't agree to within 40% |
| J,S | Estimated concentration; analyzed by method of standard addition (MSA) |
| L | Sample reporting limits elevated due to matrix interference |
| L1 | The associated blank spike (LCS) recovery was above the laboratory acceptance limits. |
| L2 | The associated blank spike (LCS) recovery was below the laboratory acceptance limits. |
| M | Matrix effect; the concentration is an estimate due to matrix effect. |
| N | Nontarget analyte; the analyte is a tentativlely identified compound (TIC) by GC/MS |
| NA | Not applicable |
| ND | Not detected at or above the reporting limit (RL). |
| ND, L | Not detected; sample reporting limit (RL) elevated due to interference |
| ND, S | Not detected; analyzed by method of standard addition (MSA) |
| NF | Not found by library search |
| NFL | No free liquid |
| NI | Non-ignitable |
| NR | Analyte is not required to be analyzed |
| NS | Not spiked |
| P | Concentrations >40% difference between the two GC columns |
| Q | One or more quality control criteria failed. See narrative. |
| QNS | Quantity of sample not sufficient to perform analysis |
| RA | Reanalysis confirms reported results |
| RE | Reanalysis confirms sample matrix interference |
| S | Analyzed by method of standard addition (MSA) |
| SMI | Sample matrix interference on surrogate |
| SP | Reported results are for spike compounds only |
| TIC | Library Search Compound |
| TNTC | Too numerous to count |
| U | Analyte was not detected. The concentration is below the reported LOD. |
| UJ | Undetected; the analyte was analyzed for, but not detected. |
| UQ | Undetected; the analyte was analyzed for, but not detected. |
| W | Post-digestion spike for furnace AA out of control limits |
| X | Exceeds regulatory limit |
| X, S | Exceeds regulatory limit; method of standard additions (MSA) |
| Z | Cannot be resolved from isomer - see below |

*****Special Notes for Organic Analytes**

Qualkey: DOD

1. Acrolein and acrylonitrile by method 624 are semi-quantitative screens only.
2. 1,2-Diphenylhydrazine is unstable and is reported as azobenzene.
3. N-nitrosodiphenylamine cannot be separated from diphenylamine.
4. 3-Methylphenol and 4-Methylphenol are unresolvable compounds.
5. m-Xylene and p-Xylene are unresolvable compounds.
6. The reporting limits for Appendix II/IX compounds by method 8270 are based on EPA estimated PQLs referenced in 40 CFR Part 264, Appendix IX. They are not always achievable for every compound and are matrix dependent.

zia engineering & environmental consultants, llc
755 S. Telshor Blvd. Ste. F-201
Las Cruces, NM 88011
575-632-1526 u
575-632-1587 f

# CHAIN OF CUSTODY RECORD



PROJECT NO.

PROJECT NAME: STP HTA 02/0D

SAMPLER'S SIGNATURE: Brady T. Davis

| DATE | TIME | SAMPLE ID | MATRIX | LAB NO. | NO. OF CONTAINERS | RCRA 8 metals | VOCs | SVOCs | pH | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|
| 2-17-12 | 1240 | STP-WC-0212 | Water | | 6 | X | X | X | X | Waste Characterization |
| 2-17-12 | 1245 | HTA-WC-0212 | Water | | 6 | X | X | X | X | " |

| PROJECT INFORMATION | SAMPLES RECEIVED | 1. RELINQUISHED BY: (SIGNATURE) Brady T. Davis | 2. RELINQ |
|---|---|---|---|
| PROJECT MANAGER: Mark Lyon-Shaw | TOTAL NO. OF CONTAINERS | (PRINTED NAME) Bradley T. Davis | (PRINTED N |
| SHIPPING ID NO. | CHAIN OF CUSTODY SEALS | RECEIVED BY: (SIGNATURE) | RECEIVED |
| | GOOD CONDITION/COLD | (TIME/ DATE) | (TIME/ DAT |
| VIA: FedEX | CONFORMS TO RECORD | SPECIAL INSTRUCTIONS/ COMMENTS: Please Report Results to Shaw (Mark Lyon) and Zia (Brad Davis) | |

Microbac OVD
Received: 02/18/2012 09:02
By: CARA STRICKLER 221000022512

Cara Strickler

PLEASE USE BALL POINT PEN

DISTRIBUTION: WHITE - PROJECT FILES; YELLOW - LAB; PINK - FIELD COPY

Microbac Laboratories Inc.

Internal Chain of Custody Report

**Login:** L12020592
**Account:** 3005
**Project:** 3005.011
**Samples:** 3
**Due Date:** 28-FEB-2012

| Samplenum | Container ID | Products |
|---|---|---|
| **L12020592-01** | 939985 | |

Bottle: 1

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | V1 | 20-FEB-2012 12:01 | JKT | | <2 |
| 2 | ANALYZ | V1 | ORG4 | 20-FEB-2012 13:27 | MES | RLK | |

Bottle: 2

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | V1 | 20-FEB-2012 12:01 | JKT | | <2 |
| 2 | ANALYZ | V1 | ORG4 | 20-FEB-2012 13:27 | MES | RLK | |

| Samplenum | Container ID | Products |
|---|---|---|
| **L12020592-01** | 939986 | 826-SPE 827-SPE |

Bottle: 1

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | W1 | 20-FEB-2012 12:01 | JKT | | |
| 2 | PREP | W1 | EXT | 24-FEB-2012 06:44 | CEB | AZH | |
| 3 | ANALYZ* | EXT | SEMI | 24-FEB-2012 16:03 | ECL | CEB | |

***Sample extract/digestate/leachate**

Bottle: 2

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | W1 | 20-FEB-2012 12:01 | JKT | | |
| 2 | STORE | W1 | A1 | 28-FEB-2012 12:27 | BLG | BLG | |

***Sample extract/digestate/leachate**

| Samplenum | Container ID | Products |
|---|---|---|
| **L12020592-01** | 939987 | COR-PH |

Bottle: 1

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | W1 | 20-FEB-2012 12:01 | JKT | | |
| 2 | ANALYZ | W1 | WET | 20-FEB-2012 14:35 | DIH | JKS | |
| 3 | STORE | WET | A1 | 21-FEB-2012 08:22 | JKS | DLP | |

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

**Login:** L12020592
**Account:** 3005
**Project:** 3005.011
**Samples:** 3
**Due Date:** 28-FEB-2012

| Samplenum | Container ID | Products |
|---|---|---|
| **L12020592-01** | 939988 | AG AS-AX BA CD CR HG PB-AX SE-MS |

Bottle: 1

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | W1 | 20-FEB-2012 12:01 | JKT | | |
| 2 | PREP | W1 | DIG | 21-FEB-2012 05:30 | REK | ATZ | |
| 3 | ANALYZ* | DIG | METALS | 21-FEB-2012 11:19 | EDL | REK | |
| 4 | STORE | DIG | A1 | 21-FEB-2012 12:38 | JKS | ERP | |

***Sample extract/digestate/leachate**

| Samplenum | Container ID | Products |
|---|---|---|
| **L12020592-02** | 939989 | |

Bottle: 1

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | V1 | 20-FEB-2012 12:01 | JKT | | <2 |
| 2 | ANALYZ | V1 | ORG4 | 20-FEB-2012 13:27 | MES | RLK | |

Bottle: 2

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | V1 | 20-FEB-2012 12:01 | JKT | | <2 |
| 2 | ANALYZ | V1 | ORG4 | 20-FEB-2012 13:27 | MES | RLK | |

| Samplenum | Container ID | Products |
|---|---|---|
| **L12020592-02** | 939990 | 826-SPE 827-SPE |

Bottle: 1

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | W1 | 20-FEB-2012 12:01 | JKT | | |
| 2 | PREP | W1 | EXT | 24-FEB-2012 06:44 | CEB | AZH | |
| 3 | ANALYZ* | EXT | SEMI | 24-FEB-2012 16:03 | ECL | CEB | |

***Sample extract/digestate/leachate**

Bottle: 2

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | W1 | 20-FEB-2012 12:01 | JKT | | |
| 2 | STORE | W1 | A1 | 28-FEB-2012 12:27 | BLG | BLG | |

***Sample extract/digestate/leachate**

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login

Microbac Laboratories Inc.

Internal Chain of Custody Report

**Login:** L12020592
**Account:** 3005
**Project:** 3005.011
**Samples:** 3
**Due Date:** 28-FEB-2012

| Samplenum | Container ID | Products |
|---|---|---|
| **L12020592-02** | 939991 | COR-PH |

Bottle: 1

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | W1 | 20-FEB-2012 12:01 | JKT | | |
| 2 | ANALYZ | W1 | WET | 20-FEB-2012 14:35 | DIH | JKS | |
| 3 | STORE | WET | A1 | 21-FEB-2012 08:22 | JKS | DLP | |

| Samplenum | Container ID | Products |
|---|---|---|
| **L12020592-02** | 939992 | AG AS-AX BA CD CR HG PB-AX SE-MS |

Bottle: 1

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | W1 | 20-FEB-2012 12:01 | JKT | | |
| 2 | PREP | W1 | DIG | 21-FEB-2012 05:30 | REK | ATZ | |
| 3 | ANALYZ* | DIG | METALS | 21-FEB-2012 11:19 | EDL | REK | |
| 4 | STORE | DIG | A1 | 21-FEB-2012 12:38 | JKS | ERP | |

***Sample extract/digestate/leachate***

| Samplenum | Container ID | Products |
|---|---|---|
| **L12020592-03** | 939993 | 826-SPE |

Bottle: 1

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | V1 | 20-FEB-2012 12:01 | JKT | | <2 |
| 2 | ANALYZ | V1 | ORG4 | 20-FEB-2012 13:27 | MES | RLK | |

Bottle: 2

| Seq. | Purpose | From | To | Date/Time | Accept | Relinquish | pH |
|---|---|---|---|---|---|---|---|
| 1 | LOGIN | COOLER | V1 | 20-FEB-2012 12:01 | JKT | | <2 |
| 2 | ANALYZ | V1 | ORG4 | 20-FEB-2012 13:27 | MES | RLK | |

A1 - Sample Archive (COLD)
A2 - Sample Archive (AMBIENT)
F1 - Volatiles Freezer in Login
V1 - Volatiles Refrigerator in Login
W1 - Walkin Cooler in Login